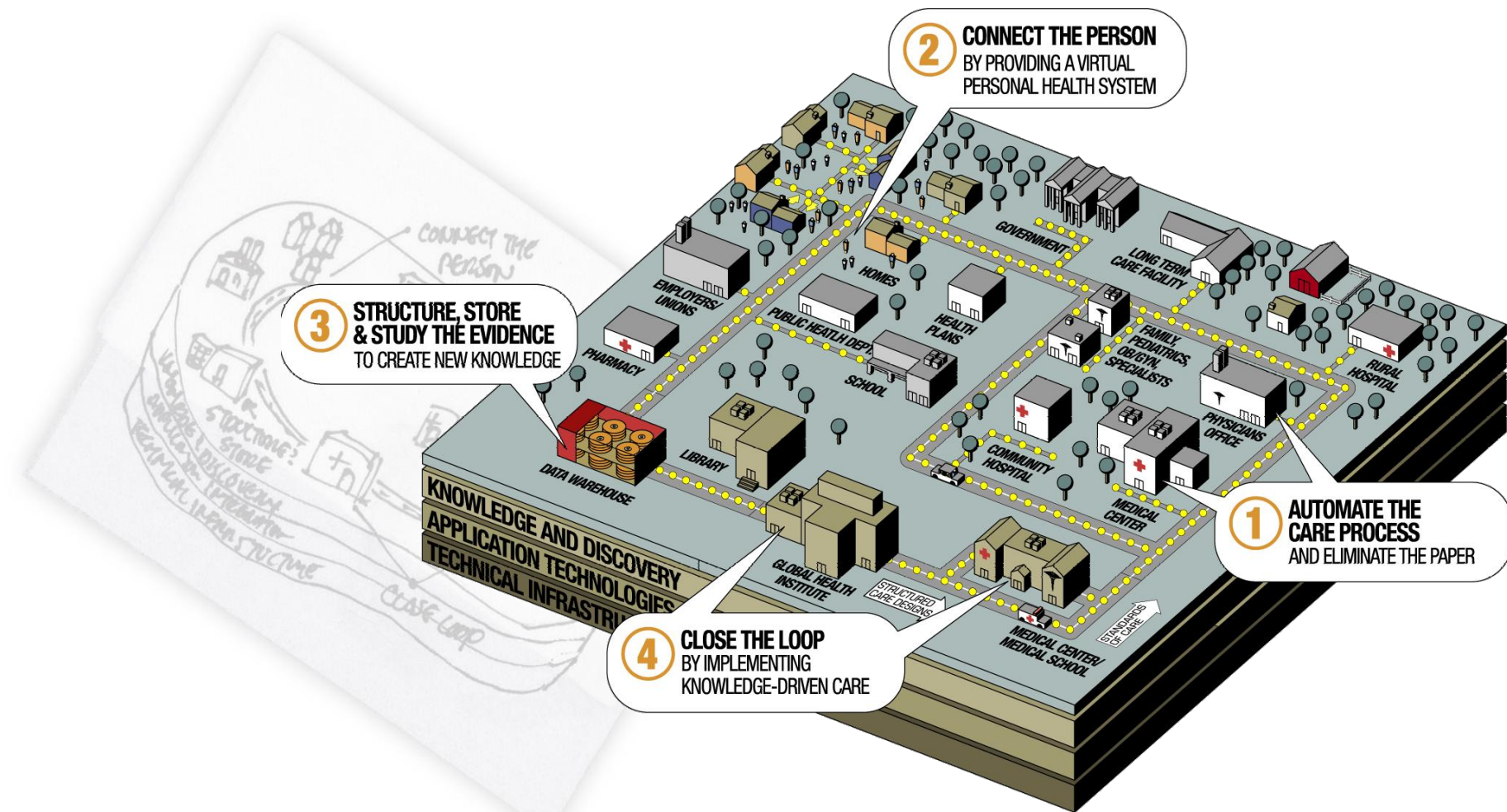




State of Missouri HIT Task Force

June 29, 2006

Community Health Model



Company Highlights

■ Founded in 1979; founders still actively leading company

■ Largest company focused on clinical information and transformational solutions for healthcare

- ◇ Over 7,000 associates world-wide
- ◇ 1,600 member services organization; 2,000 person Intellectual Property (IP) organization
- ◇ 2005 revenues of ~ 1.1 billion

■ History of organic growth through investment in IP

- ◇ 10-year revenue CAGR of 20% driven primarily by organic growth
- ◇ \$1.5 billion revenue backlog, nearly doubled in last three years
- ◇ A single, comprehensive healthcare architecture (*Cerner Millennium*)
- ◇ Over 6,500 live solutions at more than 1,700 client facilities
- ◇ Includes more than 5,100 live Millennium solutions at nearly 950 client facilities

Shared Objectives

- **Jointly create a vision for Medicaid and State of Missouri healthcare system**
- **Deploy a platform to improve outcomes and reduce medical error, variance, waste, delay, and friction throughout the healthcare system**
- **Leverage Missouri's public health capabilities as part of an outreach effort to improve overall population health**
- **Connect “all players”**
 - ◇ Facilitate data sharing across the continuum of care
 - ◇ Eliminate organizational, geographic and technical boundaries
- **Create a detailed ROI analysis that substantiates the benefit for all constituents**
- **Establish Missouri the demonstration site for the rest of the country to follow**

Three Types Of Electronic Health Records



■ Provider Electronic Health/Medical Record (EHR or EMR)

- ◇ Legal medical record owned and used by providers to manage their own patient population
- ◇ Used across multiple venues of care within an enterprise for multiple conditions

■ Community Health Record (CHR)

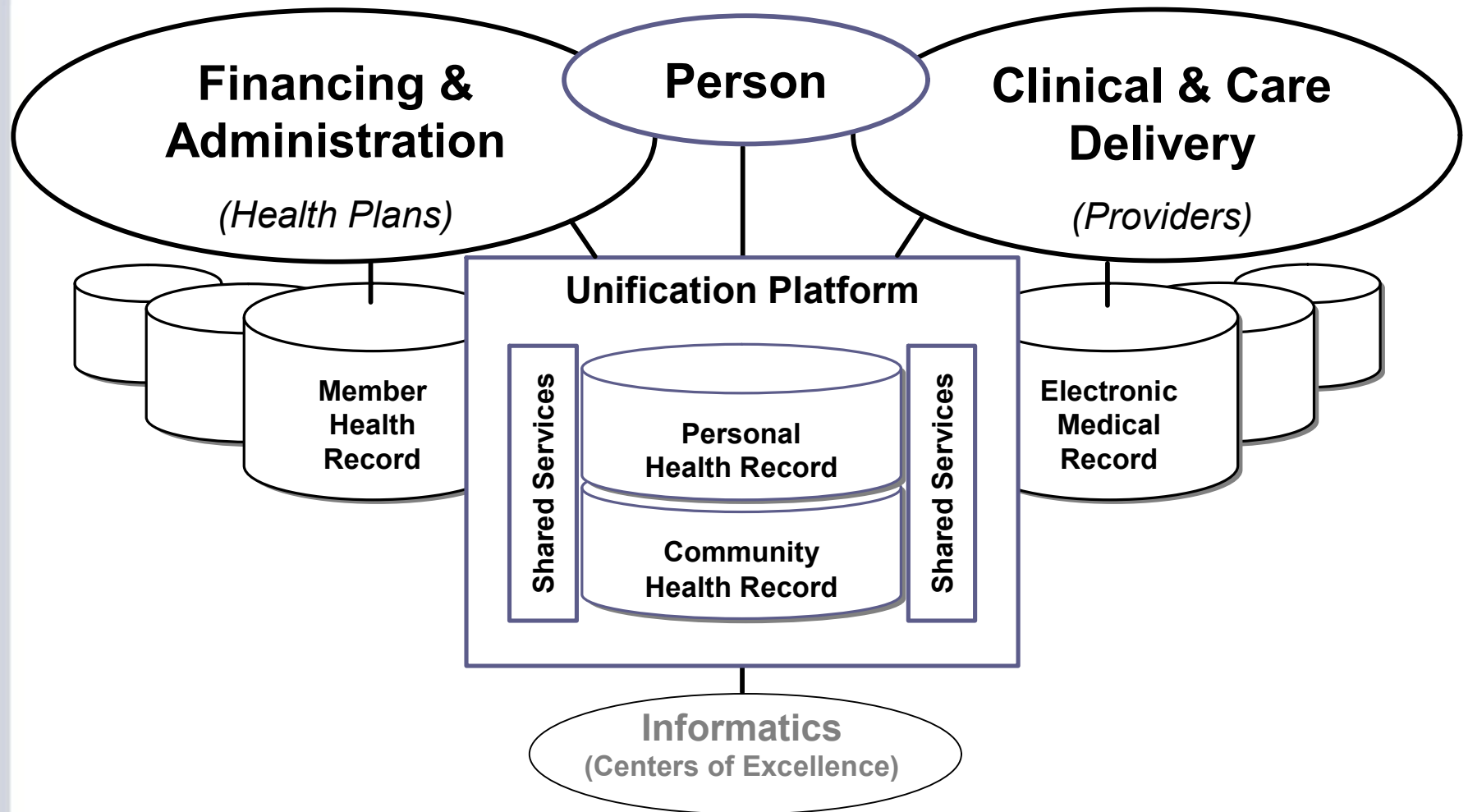
- ◇ “Community owned” record that serves a “politically viable” geography, region, or health system network
- ◇ Crosses traditional provider system’s boundaries
- ◇ Derives summary information from multiple sources
- ◇ Ties into a national health infrastructure
- ◇ Enables bio-health, public health, outcomes management
- ◇ Supports pay-for-performance

■ Personal Health Record (PHR)

- ◇ Personally-managed health data
- ◇ Populated with data from CHRs and EMRs
- ◇ Wellness programs/condition mgmt.

Merging Of Two Worlds

Provide a series of “Shared Services” for Missouri



CHR – Key Features / Benefits

- **Provides a quick summary of key activity information**
- **Patient-centered record of aggregated health data**
 - ◇ Financial & administrative
 - ◇ Clinical
- **Enables both aggregated and “shared only” views of the information**
- **Web-based, easy to deploy and easy to learn**
- **Contains extendable services, e.g. in-box, eRx, referral mgmt, etc.**
- **Interoperates with existing applications/services**
- **Stepping-stone towards a full EMR**

Sampling Of Shared Services

■ Community Health Record (CHR)

- ◇ EMPI
- ◇ Lightweight documentation

■ Secure messaging and in-box

■ Electronic prescribing

■ Front office management

- ◇ Benefit eligibility and claims management
- ◇ Referral management
- ◇ Scheduling

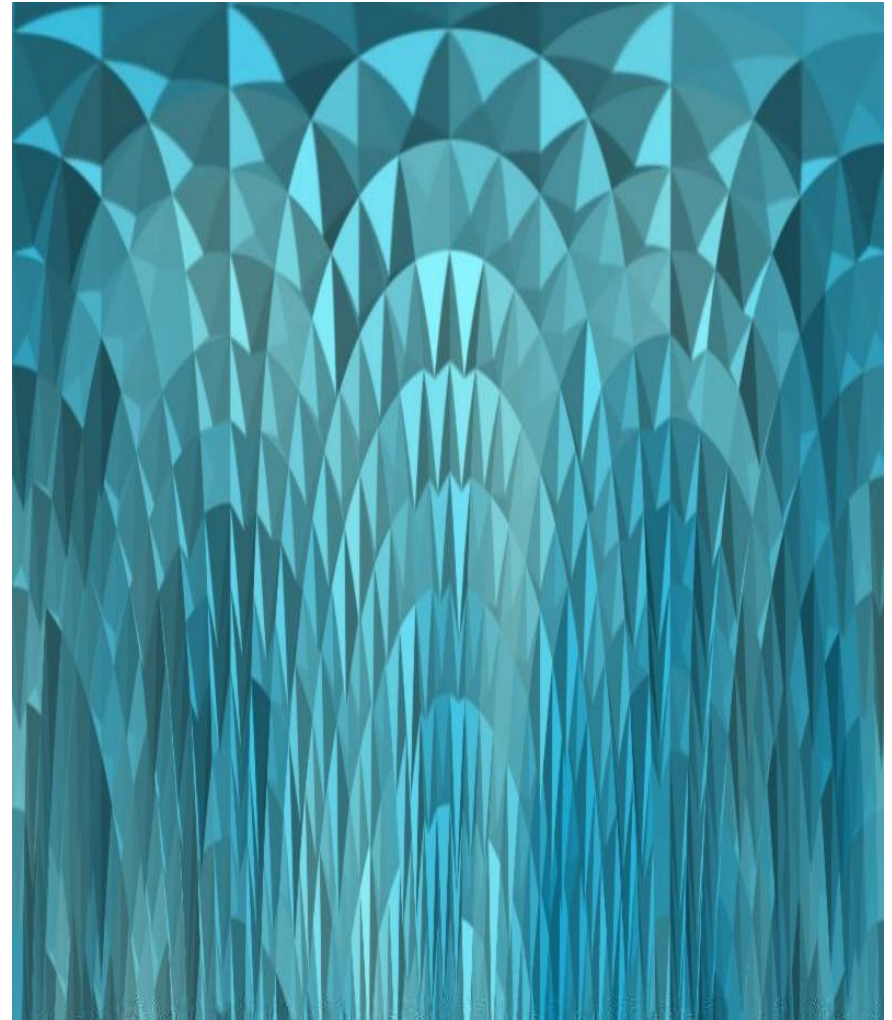
■ Consumer connectivity

- ◇ Personal health record
- ◇ Chronic condition management

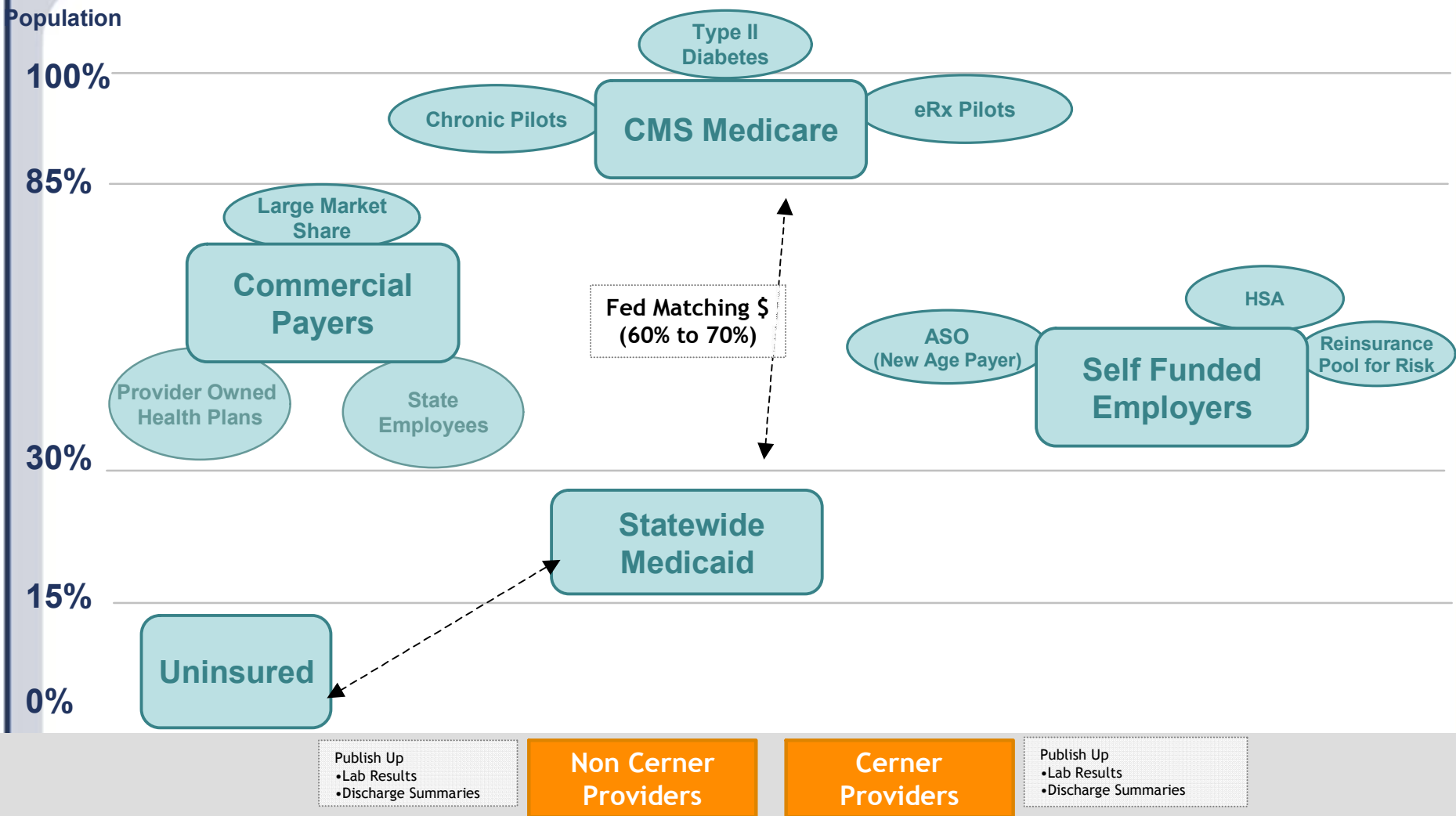
■ Analytics and outcomes (data warehouse)

■ Public health

- ◇ Bio-surveillance
- ◇ Disaster preparedness



Strategy For Adding Populations



Tennessee – Early Adopter

■ Population

- ◇ TennCare lives - 1,100,000
- ◇ Additional members contemplated
 - BCBST commercial lives (fully insured) - 700,000*
 - Cigna commercial lives (fully insured) – 500,000*
 - Medicare lives - 870,00*

■ Services

- ◇ Phase 1 “Core” – community health record (CHR), EMPI, and lightweight documentation (EPSDT)
- ◇ ePrescribing pilots live, broad physician roll-out started May, 2006

■ Current progress

- ◇ All 1,100,000 TennCare lives with a CHR
- ◇ Approximately 4,200 unique users (600 plus sites)
- ◇ Adding ~ 100 new users a week

Healthe Mid-America Timeline

■ Objective: Create an independent “trusted agent” to facilitate electronic exchange of health information in the Kansas City region

- ◇ Improve quality and cost of care through enhanced coordination
- ◇ Provide lightweight connectivity to Kansas City physicians free of charge

■ Summer 2005

- ◇ Recruitment of initial sponsoring employer organizations
- ◇ Initial discussions with hospital CEO's & physician leaders
- ◇ Completion of detailed draft business plan

■ Fall 2005 – Healthe Mid-America announced

Healthe Mid-America Timeline

■ Winter and Spring 2005-06

- ◇ Recruitment of additional sponsoring organizations
- ◇ Completion of business plan
 - Revised pricing*
 - Recommendations developed on key issues*
- ◇ Provider adoption and roll-out planned
- ◇ System readiness
- ◇ Incorporation of Healthe Mid-America
 - Board members named*
 - Interim officers elected*

Founding Sponsors



Expected Benefits

■ Improve care coordination and /or reduce clinical waste

- ◇ Reduce inpatient admissions due to incomplete data in the ED
- ◇ Reduce repeat outpatient visits due to incomplete patient data
- ◇ Decrease wasteful diagnostic tests

■ More efficient use of medications

- ◇ Reduce adverse drug events (ADEs)
- ◇ Increase formulary-driven savings (generics)
- ◇ Promote evidence-based prescribing (stepped care & therapeutic switch)
- ◇ Reduce medication waste (redundant orders; over-utilization)

■ Improve health maintenance compliance

- ◇ Increase participation rates for EPSDT and immunizations
- ◇ Reduce costs around EPSDT (monitoring and legal liability)

■ Reduce fraud and abuse

Screen Captures

Community Health Record – Face Sheet

Search Day List Inbox Help

CHR_User5 user5, 1713343CVS | Log Out

TEST1MEMBER, CLARRISA Z 9y 10m F ALLERGIES: penicillin PCP: TESTPHYSICIAN, BOB DOB: 6/16/1996 MEMBER #:

MENU

Overview

Overview

Allergies

Medications

Immunizations

EPSDT

Claimed Visits

Vital Signs

Facesheet

Recent Activity

Print

TEST1MEMBER, CLARRISA Z

1236 SUNSET DR
SPRINGFIELD, MO 30926-1700
(636) 555-1234
alt: (636) 555-1234

Member #: -
SSN: 116-99-7854
Age: 9y 10m
Gender: Female
DOB: 6/16/1996
Language: OTOMIAN

Primary Care Physician
TESTPHYSICIAN, BOB
-
(816) 555-2389



Allergies

Add Allergy...

SUBSTANCE	REACTION	STATUS	TYPE
 penicillin	Anaphylaxis	Active	Allergy

Current Medications

View Past Meds | View Med Claims | Prescribe...

 amoxicillin 125 mg oral tablet, chewable: 1 tab(s) chewed 3 times a day, #30 tab(s)
 carbinoxamine/dextromethorphan/PSE 1 mg-4 mg-15 mg/mL oral liquid: 125 mL orally once a day (in the morning), #3,750 mL
ibuprofen 100 mg/5 mL oral suspension: 15 mL orally 3 times a day, #14 day(s)
Hx ibuprofen 200 mg oral tablet
levalbuterol 1.25 mg/0.5 mL inhalation solution: 0.5 mL by nebulizer 3 times a day, #45 mL

Immunizations

VACCINE	ADMINISTRATION DATE	ADMIN AGE	STATUS
diphtheria/pertussis,acel/tetanus, <7yrs	7/25/2005	9y 1m	Final
diphtheria/pertussis,acel/tetanus, <7yrs	7/17/2002	6y 1m	Final
diphtheria/pertussis,acel/tetanus, <7yrs	10/22/2001	5y 4m	Final
haemophilus b conjugate (HbOC) vaccine	7/17/2002	6y 1m	Final
haemophilus b conjugate (HbOC) vaccine	10/22/2001	5y 4m	Final
influenza virus vaccine, 3 yrs or older	11/11/2005	9y 4m	Final
influenza virus vaccine, 3 yrs or older	10/21/2004	8y 4m	Final

CERNER

CERNER
All Together

CHR – Recent Activity

Search Day List Inbox Help

CHR_User5 user5, 1713343CVS Log Out

TEST1MEMBER, CLARRISA Z 9y 10m F ALLERGIES: penicillin PCP: TESTPHYSICIAN, BOB DOB: 6/16/1996 MEMBER #:



▼ MENU

Overview

Overview

Facesheet

Recent Activity

Allergies

Medications

Immunizations

EPSDT

Claimed Visits

Vital Signs

Print

» Show: Last 3 months

Claimed Visits

DATE	TYPE	PROVIDER
5/2/2006	Office	TESTPHYSICIAN , BOB DR
DIAGNOSES		PROCEDURES
788.41 URINARY FREQUENCY		
599.0 URINARY TRACT INFECTION, SITE NOT SPECIFIED		
5/1/2006	Office	TESTPHYSICIAN , BOB DR
DIAGNOSES		PROCEDURES
493.00 Extrinsic asthma, unspecified		

Medication Claims

- No Medication Claims Found -

Medication Profile

Search Day List Inbox Help

CHR_User3 User3, CHR_Org1 | Log Out

TEST1MEMBER, SANDY V 58y F ALLERGIES: acyclovir, cephalosporins, lansoprazole-naproxen, [MORE] PCP: TESTPHYSICIAN, BOB DOB: 3/18/1948 MEMBER #:

▼ MENU

Overview

Allergies

Medications

Immunizations

EPSDT

Claimed Visits

Vital Signs

Lab Results

Medications

Formulary: Ter

Med Profile

Past Meds

Med Claims

Prescribe

Rx/Tx/Dx Catalog:

Search

Print

Current Medications

START DATE

SUPPLY REMAINING

MANAGED BY

ACTIONS

My Prescriptions

atenolol

Pref

atenolol 25 mg oral tablet

1/10/2006

92 days

User3, CHR_User3

[Prescribe](#) | [Renew](#) | [Remove](#)

1 tab(s) orally once a day, #30 tab(s), Refills: 6

Pref

atenolol 25 mg oral tablet

5/3/2006

205 days

User3, CHR_User3

[Prescribe](#) | [Renew](#) | [Remove](#)

1 tab(s) orally once a day, #30 tab(s), Refills: 6

azithromycin

Pref

azithromycin 500 mg oral tablet

4/27/2006

None

User3, CHR_User3

[Prescribe](#) | [Renew](#) | [Remove](#)

1 tab(s) orally once a day, x3 day(s), #3 tab(s)

fexofenadine

PA*

fexofenadine 30 mg oral tablet

5/3/2006

25 days

User3, CHR_User3

[Prescribe](#) | [Renew](#) | [Remove](#)

1 tab(s) orally 2 times a day, #60 tab(s)

Hx **PA***

fexofenadine 30 mg oral tablet

2/7/2006

User1, CHR_User1

[Prescribe](#) | [Remove](#)

lisinopril

Pref

lisinopril 10 mg oral tablet

12/6/2005

57 days

User3, CHR_User3

[Prescribe](#) | [Renew](#) | [Remove](#)

1 tab(s) orally once a day, #30 tab(s), Refills: 6

Pref

lisinopril 10 mg oral tablet

5/3/2006

205 days

User3, CHR_User3

[Prescribe](#) | [Renew](#) | [Remove](#)

1 tab(s) orally once a day, #30 tab(s), Refills: 6

oxycodone

Pref

oxycodone 20 mg/mL oral concentrate

4/27/2006

None

User3, CHR_User3

[Prescribe](#) | [Renew](#) | [Remove](#)

1 mL orally every 6 hours, x5 day(s), #20 mL

penicillin

Pref

A

penicillin V potassium 250 mg oral tablet

5/3/2006

5 days

User3, CHR_User3

[Prescribe](#) | [Renew](#) | [Remove](#)

1 tab(s) orally 4 times a day, x10 day(s), #40 tab(s)

Pref

A

penicillin V potassium 250 mg oral tablet

5/3/2006

5 days

User3, CHR_User3

[Prescribe](#) | [Renew](#) | [Remove](#)

1 tab(s) orally 4 times a day, #40 tab(s)

Pref

A

penicillin V potassium 250 mg oral tablet

5/3/2006

5 days

User3, CHR_User3

[Prescribe](#) | [Renew](#) | [Remove](#)

1 tab(s) orally 4 times a day, x10 day(s), #40 tab(s)

CERNER

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Medication Claims

Medications

Formulary: TennCare

[Med Profile](#)[Past Meds](#)[Med Claims](#)[Prescribe](#)

Rx/Tx/Dx Catalog:

» Show: Last 12 months

[Print](#)

Medication Claims		QUANTITY	FILL DATE	DISPENSING PHARMACY	MANAGED BY	ACTIONS
	albuterol 0.083% inhalation solution	#180	8/28/2005	GENERAL PHARMACY		Prescribe Record
	Flovent HFA 110 mcg/inh inhalation aerosol with adapter	#12	8/28/2005	GENERAL PHARMACY		Prescribe Record
	Spiriva 18 mcg inhalation capsule	#30	8/28/2005	GENERAL PHARMACY		Prescribe Record
	glipizIDE 10 mg oral tablet	#60	8/3/2005	GENERAL PHARMACY		Prescribe Record
	Prozac 20 mg oral capsule	#90	7/30/2005	GENERAL PHARMACY		Prescribe Record
	Xanax XR 1 mg oral tablet, extended release	#3	7/30/2005	GENERAL PHARMACY		Prescribe Record
	Serevent Diskus 50 mcg inhalation powder	#60	7/13/2005	GENERAL PHARMACY		Prescribe Record
	Ventolin HFA 90 mcg/inh inhalation aerosol with adapter	#1	7/3/2005	GENERAL PHARMACY		Prescribe Record
	metformin 500 mg oral tablet	#120	7/1/2005	GENERAL PHARMACY		Prescribe Record



ePrescribing

Medications

Formulary: TennCare

Med Profile

Past Meds

Med Claims

Prescribe

Rx/Tx/Dx Catalog:

Search



Start



Select Treatment

benzodiazepines



Select Formulation

of alprazolam



Prescribe

Xanax XR 1 mg oral tablet, extended release

PA !! Xanax XR 1 mg oral tablet, extended release

SIG [Dose] * [Route] * [Frequency] * , [PRN Instructions] , [Duration]

Instructions: [Instructions]

Dispense [Dispense] * , No refills

☐ Dispense As Written

PA

☒ Print DEA Number

Samples Given: [Samples]

Routing

Print

Management Start Date: 5/9/2006

Expect to renew: No (acute)

Internal Comment: [Comment]

Alerts for Review

Interactions: !! food (GENERALLY AVOID - moderate interaction)

! (6) minor interactions found

Formulary: PA Prior Authorization required

Reference Information

Dosage | Pharmacology | Warnings | Side Effects | Pregnancy | Lactation

Alternatives

benzodiazepines

- Cov chlordiazepoxide (Librium)
- Cov clonazepam (Klonopin, Klonopin Wafer)
- Cov clorazepate (Tranxene SD, Tranxene T-Tab)
- Cov diazepam (Diastat AcuDial, Diastat Pediatric, ...)
- Pref estazolam (Prosom)
- PA flurazepam (Dalmane)
- Cov lorazepam (Ativan)
- Cov midazolam
- Cov oxazepam (Serax)
- PA quazepam (Doral)
- Pref temazepam (Restoril)
- Pref triazolam (Halcion)

Sign Now

Sign Later

ePrescribing

Medications

Formulary: TennCare

Med Profile

Past Meds

Med Claims

Prescribe

Rx/Tx/Dx Catalog:

Search



Start



Select Treatment

benzodiazepines



Select Formulation

of estazolam



Prescribe

estazolam 2 mg oral tablet

Pref !! estazolam 2 mg oral tablet

SIG 1 tab(s) orally once a day (at bedtime) , [PRN Instructions] , 30 day(s)

Instructions: [Instructions]

Dispense 30 tab(s) , No refills

☐ Dispense As Written

Pref

☒ Print DEA Number

Samples Given: [Samples]

Routing Print

Management Start Date: 5/9/2006 Supply: 30 days

Expect to renew: No (acute)

Internal Comment: [Comment]

Alerts for Review

Interactions: !! meperidine (ADJUST DOSE - moderate interaction)

! (8) minor interactions found

Formulary: **Pref** Preferred

Sign Now

Sign Later

Reference Information

Dosage | Pharmacology | Warnings | Side Effects | Pregnancy | Lactation

Alternatives

benzodiazepines

Cov !! alprazolam (Niravam, Xanax, ...)

Cov !! chlordiazepoxide (Librium)

Cov !! clonazepam (Klonopin, Klonopin Wafer)

Cov !! clorazepate (Tranxene SD, Tranxene T-Tab)

Cov !! diazepam (Diastat AcuDial, Diastat Pediatric, ...)

PA !! flurazepam (Dalmane)

Cov !! lorazepam (Ativan)

Cov !! midazolam

Cov !! oxazepam (Serax)

PA !! quazepam (Doral)

Pref !! temazepam (Restoril)

Pref !! triazolam (Halcion)

ePrescribing

Medications

[Med Profile](#)[Past Meds](#)[Med Claims](#)[Prescribe](#)**Start****Select Treatment****Select Formulation****Prescribe/Record**

Search Rx/Tx/Dx Catalog

Search Results

or

[Browse Conditions](#)

Search Results For "asthma":

Matches

[asthma](#)
[asthmatic](#)
[asthmaticus](#)
[antiasthmatic](#)
[orchioblastoma](#)
[asteatosis](#)
[asteatotic](#)
[astragalus](#)
[astramorph](#)
[asmanex](#)
[acthar](#)
[anthra](#)

Disease Treatment Maps

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[Heart Failure](#)
[Status Asthmaticus](#)

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